Cabinet Unit Heaters
Type CHF & CHB

ARI 440

CUL Listed

McQuay® Air Conditioning

McQuay cabinet unit heaters

The McQuay cabinet unit heater combines all the time proven quality features of McQuay units with a solid-state speed controller and a modern decorator styled cabinet to meet today's ever-increasing demands for attractive appearance, quiet performance, proven reliability and individual comfort control in apartments, hotels, hospitals, motels, offices, etc.

Cabinet unit heaters are made in floor and basic types as standard and a field installed conversion kit is available for ceiling applications to provide the architect and engineer with the required flexibility for proper system design.

Features

- **Modern decorator styled cabinet**. Clean, simple lines with an attractive bar-type air discharge grille to blend with any decor.
- **Solid-state fan speed controller**. Positive speed control with voltage compensating circuit.
- **Variable speed motor**. Specially designed and thoroughly tested for use with the solid-state controller.
- **A new low in sound power output.** Low, uniform coil face velocities at reduced fan speeds.
- **Wide range of applications.** Two unit types (floor and basic), seven sizes in each unit type. Floor unit can be converted for ceiling use by adding ceiling conversion kit.

Solid-state fan speed controller

- **Infinite speed variations.** High to low speed with proven results. Eliminates the limitations of one or two arbitrarily selected speeds. Accurate speed reduction, capacity control and sound reduction are available at your fingertips.
- **Voltage compensating circuit.** This unique line voltage sensing circuit permits a unit design with positive control of the optimum low speed, even though service voltage varies from 100 to 130 volts. It eliminates fluctuations in air movement and sound power at low speed, common with electromechanical speed controllers.
- **Radio frequency interference noises eliminated, even in intercoms.** The circuitry of this solid-state speed controller includes an L-C filter circuit to suppress RFI noises generated by the switching action of the thyrister. The solidstate speed control has been tested for suppression of both conducted and radiated radio frequency interferences by an independent laboratory.
- **Unique control circuit.** Provides uniform fan speed reduction. This solid-state speed controller incorporates a unique circuit to eliminate the non-linear voltage rpm characteristics of the AC induction motor. The manual adjustment provides uniform change in air volume over the entire speed range.

Standard unit specifications

- **Cabinet.** The modern decorator styled cabinet with its attractive, bar-type air discharge grille, convenient matching access doors and Antique Ivory electrostatically applied, baked-on urethane powder paint finish and Oxford Brown subbase with an epoxy finish provides a high performance unit that is attractive and durable and will complement any room decor.
- **Coil.** The standard coil is constructed of seamless copper tubes and aluminum fins. It is designed for use with steam or hot water. It comes standard with manual air vent. It is tested at 315 psig.

  NOTE: Piping Connections are Left Hand Only.
- **Quiet, low speed motors.** Specifically designed for use with solid-state speed controller, these motors have been thoroughly tested and provide whisper quiet performance with infinite speed variations from high to low.
- **High performance fan wheels.** Forwardly curved, nonmetallic on unit sizes S03 through S08. Molded design provides accurate, consistent balance and deeper blades to produce maximum efficiency and quiet performance. Unit sizes S10 through S15 have forwardly curved, centrifugal, aluminum fan wheels.
- **Split design fan housing.** The die-formed fan housing was specifically designed for ultra-quiet air delivery, and consistent uniform performance.

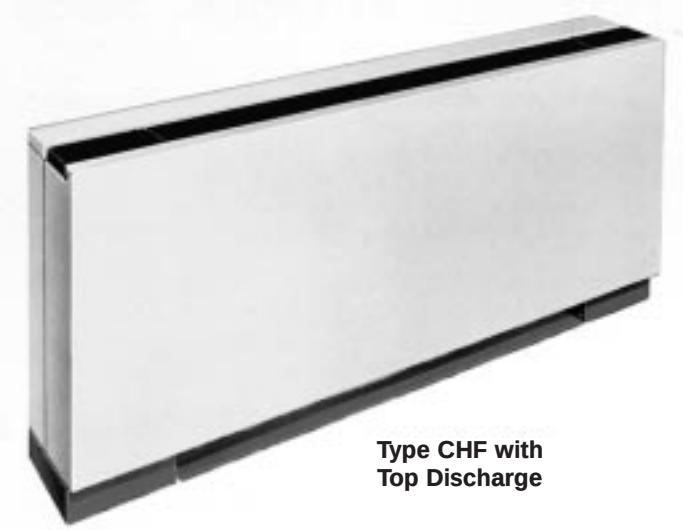
  The two-piece scroll design assures positive relationship of inlet, scroll and fan wheel for maximum efficiency and minimum sound power, yet permits easy access to the fan and motor assembly for service.

Type CHF floor unit

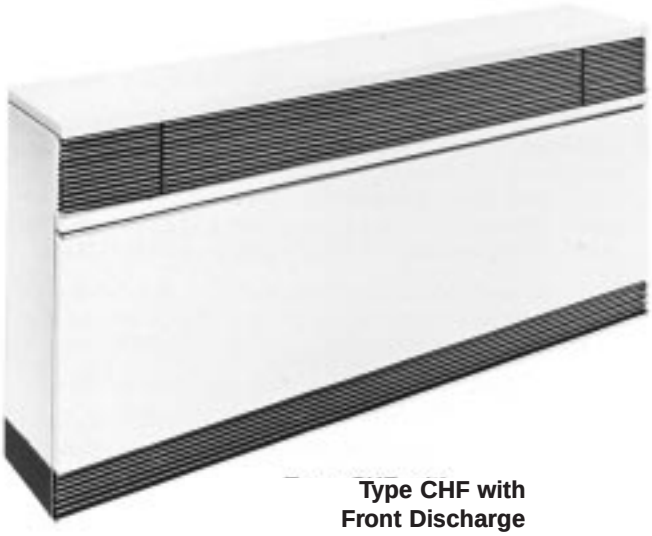
Type CHF floor units are designed for use in three different types of installations ... as a floor console, most frequently located below a window for draft-free performance in the conditioned area ... as a wall hung console in areas where a cove or molding prevents the use of a floor console ... or as a semi-recessed console for areas where a minimum of cabinet projection is desirable.

CHF units are available from stock, with top or front discharge grilles, for floor, wall and recessed mounting applications. With an optionally available kit, the CHF unit may be field modified for ceiling mounting. All units are left hand only.

The modern decorative cabinet is finished with an Antique Ivory electrostatically applied, baked-on urethane powder paint finish and Oxford Brown subbase with an epoxy finish.

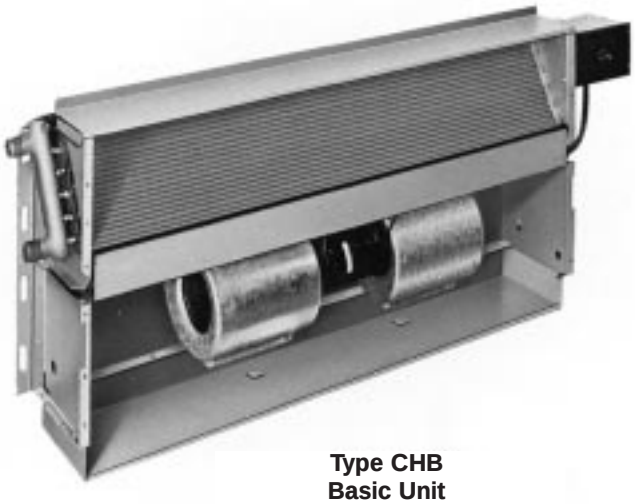


Type CHF with Top Discharge



Type CHF with Front Discharge
(Shown with optional return air grille. Available in Ceiling Conversion Kit only.)

Type CHF with Field Installed Ceiling Conversion Kit



Type CHB Basic Unit

Type CHB basic unit

Type CHB basic units are designed for floor, wall and ceiling applications that require a fully recessed installation.

These units contain all of the features of the type CHF floor console unit, except that only the base casing is furnished instead of the decorator styled cabinet. The solid-state fan speed controller is furnished unit mounted. All units left hand only.

Decorative wall plates have stamped discharge and return air grilles. All wall plates have spring loaded access doors. Wall plates have an Antique Ivory electrostatically applied, baked-on urethane powder paint finish and rounded corners.

Flexibility in types, sizes and unit arrangements

Two unit types

To provide complete flexibility of unit arrangements, two unit types-CHF and CHB-are available for floor, wall and ceiling installations. Fully exposed, semi-recessed and fully recessed units are available for all installation arrangements. CHB units and wall mounted CHF units with front discharge and return grilles are available for inverted airflow arrangements.

Seven unit sizes

To match your load requirements, seven sizes are available in each unit type. Unit sizes range from 300 cfm to 1500 cfm. All units feature the patented McQuay coil that is suitable for use with either steam or hot water.

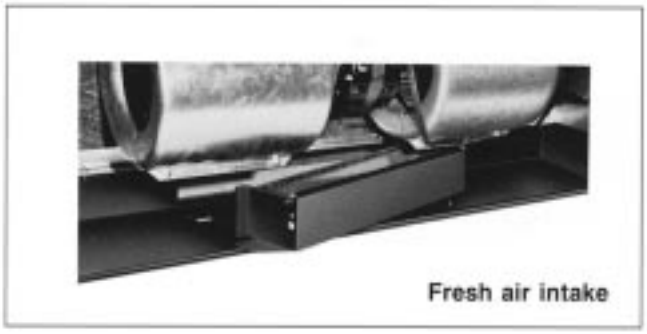
Flexibility with standard and optional accessories

Standard accessories

A wide variety of accessories is available. Return air grille for CHF units included in conversion kits that allow ceiling mountings of CHF units, trim strips for recessing floor, wall or ceiling mounted CHF units, fresh air kits, leveling leg kits, aluminum wall intake boxes, gasketing, automatic air vents and thermostats for field mounting are available.

Optional accessories

- **Return air grille.** A bar-type return air grille kit is available in the ceiling conversion kit only.
- **Thermostats.** Unit mounted thermostats are available to cycle the fan.
- **Rear perimeter gasketing.** When it is desirable to seal the space between the cabinet of the CHF floor type unit and the wall, a rear perimeter gasket of polyurethane foam in a neutral gray is available. It is recommended particularly where rough walls prevent a tight cabinet fit.
- **Fresh air intake (CHF and CHB units).** A back fresh air intake kit is shipped separately for field installation. The fresh air intake kit consists of an intake plenum, damper blade, insect screen and gasketing. Damper may be manually controlled through the return air opening.
- **Filters.** For standard airflow arrangements, a 1" thick glass fiber throwaway filter and a 1/2" thick aluminum media cleanable filter are available. All filters are shipped separately for field installation.
- **Ceiling conversion kit.** Consists of an aluminum bar type return air grille, painted sheetmetal panel to enclose bottom of unit, safety chain and hinges when unit is used for ceiling conversion. Ceiling conversion kit allows field conversion of CHF units for ceiling use or inverted airflow.
- **Fresh air wall intake box.** Fabricated of aluminum with weep holes and a double set of louvers in series to prevent moisture draw-through.
- **Decorative wall plates.** Fabricated with rounded corners and finished with an Antique Ivory electrostatically applied, baked-on urethane powder paint finish.
- **Leveling leg kit.** Available with 0 to 1" adjustment for positive leveling of floor mounted units. Shipped separately.


Fresh air intake


Fresh air wall intake box


Wall plate


Leveling legs

Nomenclature

F TSF 1 S03 A A

Product Category
F=Fan Coil

Product Identifier
See box below

Design Series
1=A Design
2=B Design
3=C Design
4=D Design
5=E Design

Nominal CFM
S02=200
S03=300
S04=400
S06=600
S08=800
etc.....

Voltage
A=115-60-1
B=200-60-3
G=230-60-1
I=230/460-60-3
J=265-60-1
L=575-60-3
Q=115/230-60-1
Z=Not applicable

Coil Options (Not available on all prod.)
A=Std. Capacity
C=Lo-Flow
D=Three Row CW/HW
J=Six Row CW/HW
K=Std. Cap. w/Full 2nd Drain Pan
N=Lo-Flow Coil w/2-Way Valve
P=Lo-Flow Coil w/3-Way Valve
Q=Lo-Flow Coil w/2-Way Valve Deluxe
R=Lo-Flow Coil w/3-Way Valve Deluxe

PRODUCT IDENTIFIER

CHB	Cabinet Unit Heater, Basic	SCD	Horiz. Lrg. Cap Direct w/ Cabinet
CHF	Cabinet Unit Heater, Floor	SHD	Horiz. Lrg. Cap Direct w/o Cabinet
CZA	Horiz. Lrg. Cap Belt w/ Cab. - Field Inst. motor	TSB	Vertical Unit w/o Cabinet
CZC	Horiz. Lrg. Cap Belt w/ Cab. - Low H.P.	TSF	Veritical Unit w/ Cabinet
CZH	Horiz. Lrg. Cap Belt w/ Cab. - High H.P.	TSC	Horiz. Unit w/ Cabinet
HSS	Hi-line Series Vertical Unit	TSH	Horiz. Unit w/o Cabinet
HZA	Horiz. Lrg. Cap Belt w/o Cab. - Field Inst. Motor	UDH	Vertical Unit Heater
HZC	Horiz. Lrg. Cap Belt w/o Cab. - Low H.P.	UDX	Vertical Unit Heater w/ Explosion Proof Motor
HZH	Horiz. Lrg. Cap Belt w/o Cab. - High H.P.	UHH	Horiz. Unit Heater
KZZ	Knock Down Hi-line w/o Valves	UHX	Horiz. Unit Heater w/ Explosion Proof Motor

Unit selection

General

Application information may be found in the ASHRAE Guide. This catalog contains application ratings for cabinet unit heaters from which the design engineer can make accurate unit selections to meet the needs of his system.

Basic design data

Determine the following factors:

1. Inside and outside dry bulb design temperatures.
2. Method of introducing the ventilation air.
3. Dry bulb temperatures of the air mixture entering the unit coil.
4. Total heat losses of the area to be served.
5. Properties of the heating medium.
6. Available electric power service.
7. Any special design requirements of the building or system.

General formulas

1. Total Btuh, Airside:
   Total Btuh = 1.09 x cfm x (lvg.- air - ent. air) dry bulb
2. Total Btuh, Waterside:
   Total Btuh = 500 x gpm x (ent. water - lvg. water)
3. Initial Temperature Difference (ITD):
   ITD = ent. water temp. - ent. air dry bulb
4. Water Temperature Drop:
$$TD = \frac{Total\ Btuh}{500 \times gpm}$$
5. Leaving Air Temperature:
$$Lvg.\ air\ dry\ bulb = ent.\ air\ dry\ bulb + \frac{Total\ Btuh}{1.09 \times cfm}$$
6. Pounds Condensate:
$$Lbs.\ Condensate/Hr. = \frac{Total\ Btuh}{Latent\ Heat\ of\ Steam}$$
7. To determine EDR:
$$EDR = \frac{Total\ Btuh}{240}\ \text{Steam} \qquad EDR = \frac{Total\ Btuh}{150}\ \text{Hot Water}$$

Example selection

Requirements:

1. Floor console with top discharge grille and front return air opening.
2. Cfm . . . . . .1200 at 0” Ext. S.P.
3. Total Btuh 62,000
4. Entering air temperature . . . . . .70˚F D.B.
5. Thermal medium - See separate examples below for hot water and steam.

Determine unit type

From Figures 1, 2 and 3, page 12. Per Figure 1 A, CHF unit meets unit arrangement requirements.

Determine unit size

From Table 6, page 7. Unit size S12 will delivery 1200 cfm at 0” Ext. S.P. Select CHF-S12 unit.

Determine coil capacity

Solution No. 1 - Hot Water Coil:

Given: 180˚F entering water temperature.

1. Check capacity of standard coil first.
2. Determine required base rating:
   Base rating = Total Btuh/ITD
   = 62,000/110 = 564
3. Determine gpm from Table 4, page 7, for standard coil: 4.0 gpm will yield the required base rating of 564.
4. Determine water temperature drop:
$$TD = \frac{Btuh}{500 \times gpm} = \frac{62{,}000}{2{,}000} = 31.0^{\circ}F$$
5. Determine water pressure drop from Table 7:
   WPD = 0.7 Ft.

Select CHF-S12 with standard coil.

Solution No. 2 - Steam Coil:

Given: 5 psig steam pressure.

1. Determine steam coil capacity of CHF-S12 unit from Table 1, page 6, at 1200 cfm and base conditions:
   Btuh = 100,000
2. Correct capacity to operating conditions. From Table 2:
   Actual Capacity = 100,000 x 0.99 = 99,000 Btuh
   This exceeds the required 62,000 Btuh.

Select CHF-S12 with steam coil.

Steam coil heating capacities

Table 1. Sensible capacity based on 60˚F entering air and 2 psig steam pressure

UNIT SIZE		CFM																
		150	200	250	300	350	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
S03	MBH	16.5	20.8	24.4	27.4													
	A.T.R. (˚F)	101.0	95.5	89.7	83.8													
	# COND./HR.	17.1	21.6	25.3	28.4													
	EDR	69	87	102	114													
S04	MBH		22.6	26.4	30.0	33.4	36.4											
	A.T.R. (˚F)		104.0	97.0	91.8	87.5	83.5											
	# COND./HR.		23.4	27.3	31.0	34.6	37.7											
	EDR		94	110	125	139	152											
S06	MBH				32.6	36.8	40.2	45.1	51.0									
	A.T.R. (˚F)				100.0	96.0	92.1	82.8	81.5									
	# COND./HR.				33.7	38.1	41.6	46.7	52.8									
	EDR				136	153	167	188	213									
S08	MBH						43.6	49.0	54.4	58.5	62.7							
	A.T.R. (˚F)						100.0	90.0	83.0	76.7	72.0							
	# COND./HR.						45.1	50.7	56.2	60.5	81.0							
	EDR						182	204	226	244	263							
S10	MBH							56.4	63.0	68.5	72.6	76.0	78.2					
	A.T.R. (˚F)							103.0	96.5	90.0	83.5	77.5	71.7					
	# COND./HR.							58.4	65.2	71.0	75.2	78.7	81.0					
	EDR							235	262	285	303	317	263					
S12	MBH								68.9	75.7	82.5	87.5	93.0	96.0	100.0			
	A.T.R. (˚F)								105.0	99.0	94.5	89.0	85.4	80.0	76.4			
	# COND./HR.								71.4	78.3	85.5	90.5	96.4	99.5	103.5			
	EDR								287	315	343	365	388	400	417			
S15	MBH									75.7	82.5	87.5	93.0	96.0	100.0	104.0	108.2	112.0
	A.T.R. (˚F)									99.0	94.5	89.0	85.4	80.0	76.4	73.5	71.0	68.5
	# COND./HR.									78.3	85.5	90.5	96.4	99.5	103.5	108.0	112.0	116.0
	EDR									315	343	365	388	400	417	434	451	471

EDR = Equivalent Direct Radiation
A.T.R. = Air Temperature Rise

Steam heating coil conversion factors

Table 2. For ratings at other than base conditions, multiply coil capacity by proper conversion factor.

STEAM PRESSURE	STEAM TEMP. (SAT.)	LATENT HEAT	ENTERING AIR TEMPERATURE									
			0	10	20	30	40	50	60	70	80	90
0	212.0	970.3	1.34	1.27	1.21	1.15	1.08	1.02	0.96	0.90	0.83	0.77
2	218.5	966.1	1.38	1.31	1.25	1.19	1.13	1.06	1.00	0.94	0.87	0.81
5	227.1	960.6	1.43	1.37	1.31	1.24	1.18	1.12	1.06	0.99	0.93	0.87
10	239.4	952.6	1.51	1.45	1.38	1.32	1.26	1.20	1.13	1.07	1.01	0.94
15	249.7	945.6	1.57	1.51	1.45	1.38	1.32	1.26	1.20	1.13	1.07	1.01
20	258.8	939.6	1.63	1.57	1.51	1.44	1.38	1.32	1.25	1.19	1.13	1.06
25	266.8	934.0	1.68	1.62	1.56	1.50	1.43	1.37	1.31	1.24	1.17	1.12

Motor data

Table 3.

UNIT SIZE	MOTOR TYPE	MOTOR HP	HIGH SPEED RPM	AMPS	WATTS
S03	PSC	1/12	1370	1.2	100
S04	PSC	1/12	1285	1.3	105
S06	PSC	1/7	1315	2.1	185
S08	PSC	1/7	1360	2.2	209
S10	PSC	1/4	980	3.5	335
S12	PSC	1/4	960	3.7	348
S15	PSC	1/3	1070	4.5	380

Motor data based on high speed fan operation and 115/60/1 electrical service.

Water heating capacities

Table 4. Standard Coil Base Ratings — Btuh/Degree ITD

Sensible heating capacity = Base rating x Initial Temperature Difference (Entering Water - Entering Air)

UNIT SIZE	FAN SPEED	WATER FLOW RATE (GPM)													
		0.5	1.0	1.5	2.0	3.0	4.0	5.0	6.0	7.0	8.0	10.0	12.0	14.0	16.0
S03	HIGH	114	145	158	166	175	180	183	185	187	188	—	—	—	—
	LOW	87	102	108	111	114	116	117	118	118	119	—	—	—	—
S04	HIGH	140	184	205	216	230	237	242	245	247	—	—	—	—	—
	LOW	109	132	140	145	150	153	155	156	157	—	—	—	—	—
S06	HIGH	173	231	276	296	319	332	340	346	—	—	—	—	—	—
	LOW	143	181	197	206	215	220	223	225	—	—	—	—	—	—
S08	HIGH	134	242	288	323	362	385	401	412	421	427	437	444	450	454
	LOW	120	188	223	241	260	271	278	283	287	290	294	297	299	300
S10	HIGH	131	251	328	381	442	477	501	519	532	543	558	570	578	585
	LOW	119	210	259	288	319	335	345	353	358	363	369	373	376	379
S12	HIGH	146	289	381	445	520	564	594	615	632	645	664	678	688	696
	LOW	135	247	308	345	384	405	419	428	435	441	449	454	458	461
S15	HIGH	149	299	400	473	562	614	650	677	698	714	738	756	769	779
	LOW	138	258	326	369	416	441	458	470	479	485	495	502	508	511

Water coil capacity reduction factor

With Water Temp. Drop Held As Constant

Application btuh = Base btuh @ Nominal cfm x Capacity correction factor

Table 5.

CFM	UNIT SIZE						
	S03	S04	S06	S08	S10	S12	S15
150	0.57	—	—	—	—	—	—
200	0.73	0.57	—	—	—	—	—
250	0.87	0.69	—	—	—	—	—
300	1.00	0.80	0.57	—	—	—	—
350	—	0.91	0.65	—	—	—	—
400	—	1.00	0.73	0.57	—	—	—
500	—	—	0.87	0.69	0.57	—	—
600	—	—	1.00	0.80	0.67	0.57	—
700	—	—	—	0.91	0.76	0.65	—
800	—	—	—	1.00	0.85	0.73	0.57
1000	—	—	—	—	1.00	0.87	0.69
1100	—	—	—	—	1.07	0.93	0.74
1200	—	—	—	—	—	1.00	0.80
1300	—	—	—	—	—	—	0.84
1400	—	—	—	—	—	—	0.91
1500	—	—	—	—	—	—	1.00

Air volume vs. external static pressures

Based on unit operating at high speed.
Includes discharge grille and throwaway filter

Table 6.

UNIT SIZE	EXTERNAL STATIC PRESSURE (IN. H_2O)						
	0	.05	.10	.15	.20	.25	.30
S03	300	285	273	257	—	—	—
S04	400	385	370	350	300	—	—
S06	600	580	550	520	500	450	—
S08	800	860	700	665	635	610	585
S10	1040	1000	960	915	870	825	775
S12	1200	1140	1090	1030	980	920	850
S15	1500	1420	1350	1270	1190	1100	1000

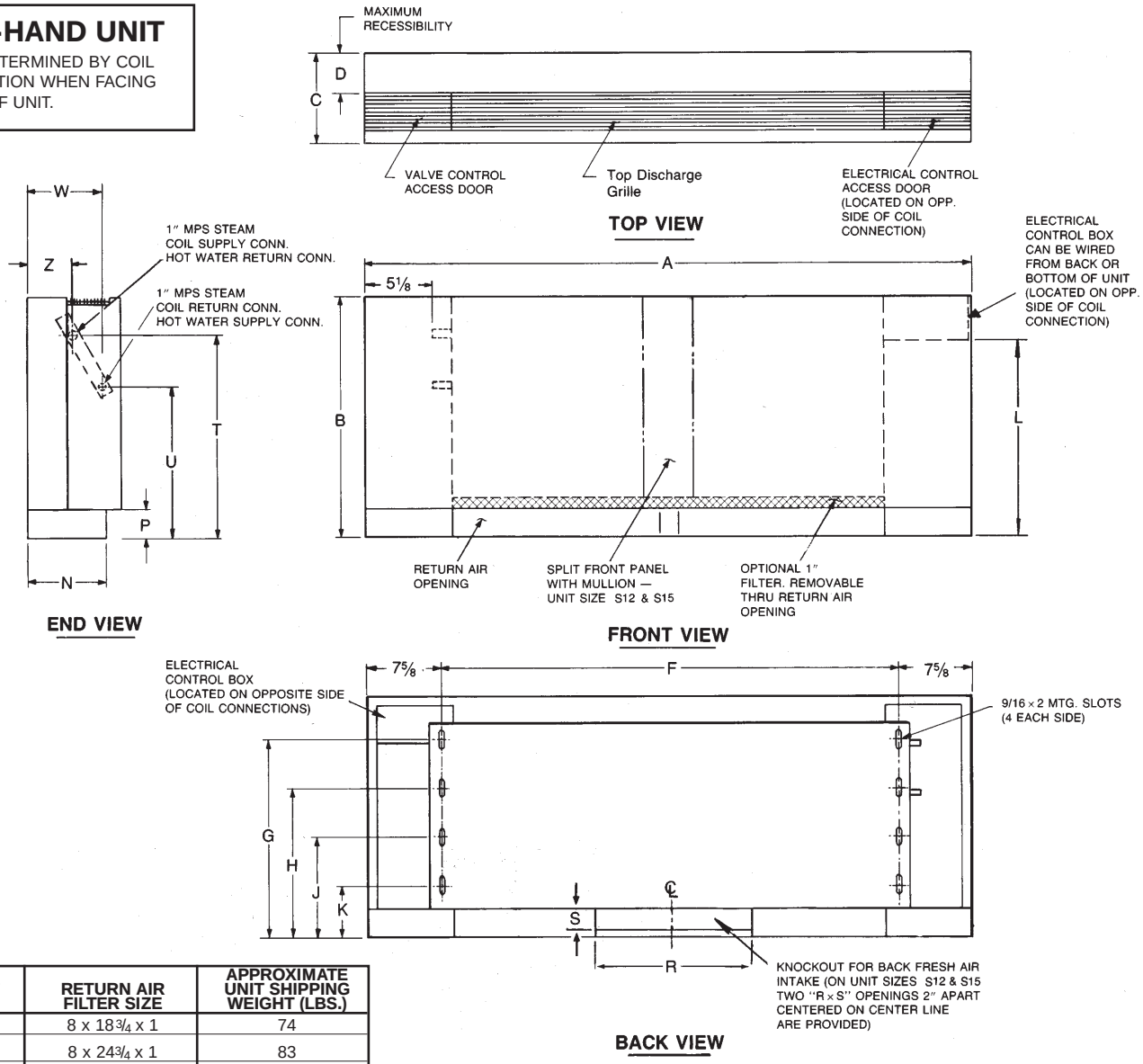
Water pressure drop (feet of water)

Table 7.

UNIT SIZE	STANDARD COIL WATER FLOW RATE (GPM)													
	0.5	1.0	1.5	2.0	3.0	4.0	5.0	6.0	7.0	8.0	10.0	12.0	14.0	16.0
S03	0.2	0.7	1.3	2.2	4.5	7.5	11.1	15.2	19.9	25.2	—	—	—	—
S04	0.2	0.8	1.6	2.7	5.5	9.1	13.5	18.5	24.2	—	—	—	—	—
S06	0.3	0.9	19	3.2	6.5	10.7	15.8	21.8	—	—	—	—	—	—
S08	0.1	0.1	0.2	0.3	0.5	0.9	1.3	1.8	2.4	3.0	4.5	6.2	8.1	10.2
S10	0.1	0.1	0.1	0.2	0.4	0.6	0.9	1.2	1.5	2.0	2.9	4.0	5.2	6.6
S12	0.1	0.1	0.1	0.2	0.4	0.7	1.0	1.4	1.9	2.4	3.5	4.8	6.3	8.0
S15	0.1	0.1	0.1	0.2	0.4	0.7	1.0	1.4	1.9	2.4	3.5	4.8	6.3	8.0

Type CHF unit with top discharge – **All units are left hand only**

LEFT-HAND UNIT
HAND DETERMINED BY COIL CONNECTION WHEN FACING FRONT OF UNIT.



CHF UNIT SIZE	RETURN AIR FILTER SIZE	APPROXIMATE UNIT SHIPPING WEIGHT (LBS.)
S03	8 x 18 3/4 x 1	74
S04	8 x 24 3/4 x 1	83
S06	8 x 33 3/4 x 1	110
S08	8 x 43 3/4 x 1	125
S10	10 3/4 x 43 3/4 x 1	152
S12	2-10 3/4 x 27 1/4 x 1	180
S15	2-10 3/4 x 27 1/4 x 1	187

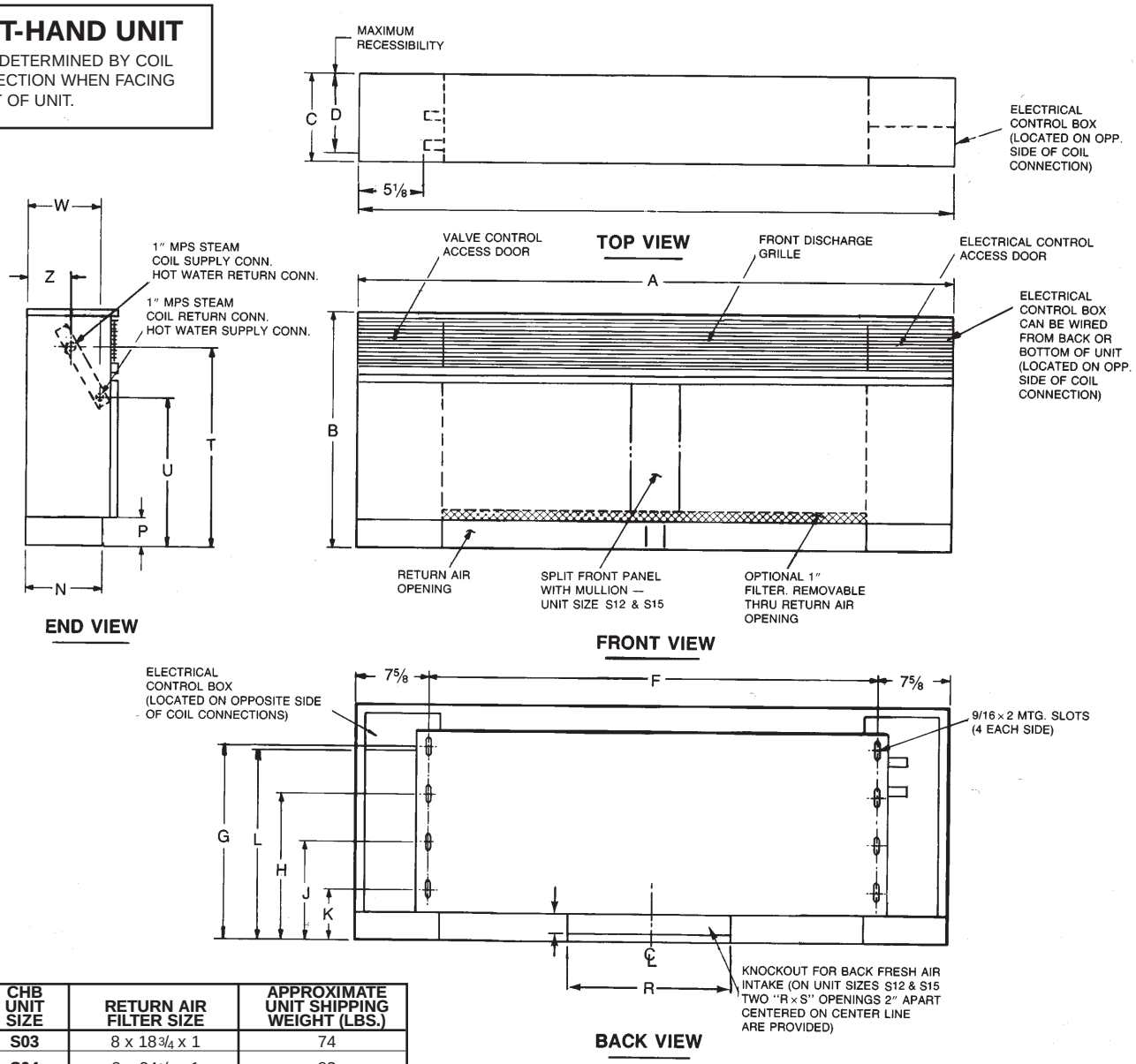
NOTE: CHF-S03 and S04 units have one fan. All other CHF units have two fans.

ALL DIMENSIONS APPROXIMATE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

MODEL NUMBER	UNIT DIMENSIONS (INCHES)																	
	A	B	C	D	F	G	H	J	K	L	N	P	R	S	T	U	W	Z
CHF-S03	37	25	9 1/4	3 7/8	21 7/8	20 3/8	15 3/8	10 3/8	5 3/8	18 1/2	8	3	10	2 1/2	21 3/4	15 1/4	6 5/8	2 7/8
CHF-S04	43	25	9 1/4	3 7/8	27 7/8	20 3/8	15 3/8	10 3/8	5 3/8	18 1/2	8	3	10	2 1/2	21 3/4	15 1/4	6 5/8	2 7/8
CHF-S06	52	25	9 1/4	3 7/8	36 7/8	20 3/8	15 3/8	10 3/8	5 3/8	18 1/2	8	3	16	2 1/2	21 3/4	15 1/4	6 5/8	2 7/8
CHF-S08	62	25	9 1/4	3 7/8	46 7/8	20 3/8	15 3/8	10 3/8	5 3/8	18 1/2	8	3	16	2 1/2	21 1/8	15 1/4	6 5/8	3 1/4
CHF-S10	62	28	12	5 5/8	46 7/8	23	17	12	6	21 3/4	10 3/4	3 1/2	16	3	24 1/2	16	9 3/8	4 1/2
CHF-S12	74	28	12	5 5/8	58 7/8	23	17	12	6	21 3/4	10 3/4	3 1/2	16	3	24 1/2	16	9 3/8	4 1/2
CHF-S15	74	28	12	5 5/8	58 7/8	23	17	12	6	21 3/4	10 3/4	3 1/2	16	3	24 1/2	16	9 3/8	4 1/2

Type CHF unit with front discharge – **All units are left hand only**

LEFT-HAND UNIT
HAND DETERMINED BY COIL CONNECTION WHEN FACING FRONT OF UNIT.



CHB UNIT SIZE	RETURN AIR FILTER SIZE	APPROXIMATE UNIT SHIPPING WEIGHT (LBS.)
S03	8 x 18¾ x 1	74
S04	8 x 24¾ x 1	83
S06	8 x 33¾ x 1	110
S08	8 x 43¾ x 1	125
S10	10¾ x 43¾ x 1	152
S12	2-10¾ x 27¼ x 1	180
S15	2-10¾ x 27¼ x 1	187

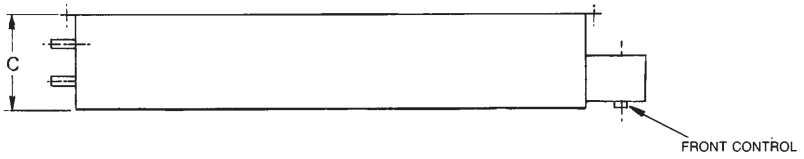
NOTE: CHB-S03 and S04 units have one fan. All other CHB units have two fans.

ALL DIMENSIONS APPROXIMATE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

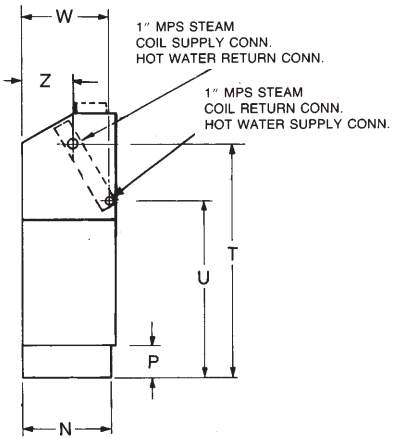
MODEL NUMBER	UNIT DIMENSIONS (INCHES)																	
	A	B	C	D	F	G	H	J	K	L	N	P	R	Q	T	U	W	Z
CHF-S03	37	25	9¼	8	21⅞	20⅜	15⅜	10⅜	5⅜	19½	8	3	10	2½	21¾	15¼	6⅝	2⅞
CHF-S04	43	25	9¼	8	27⅞	20⅜	15⅜	10⅜	5⅜	19½	8	3	10	2½	21¾	15¼	6⅝	2⅞
CHF-S06	52	25	9¼	8	36⅞	20⅜	15⅜	10⅜	5⅜	19½	8	3	16	2½	21¾	15¼	6⅝	2⅞
CHF-S08	62	25	9¼	8	46⅞	20⅜	15⅜	10⅜	5⅜	19½	8	3	16	2½	21⅛	15¼	6⅝	3¼
CHF-S10	62	28	12	10¾	46⅞	23	17	12	6	22¾	10¾	3½	16	3	24½	16	9⅜	4½
CHF-S12	74	28	12	10¾	58⅞	23	17	12	6	22¾	10¾	3½	16	3	24½	16	9⅜	4½
CHF-S15	74	28	12	10¾	58⅞	23	17	12	6	22¾	10¾	3½	16	3	24½	16	9⅜	4½

Type CHB unit – **All units are left hand only**

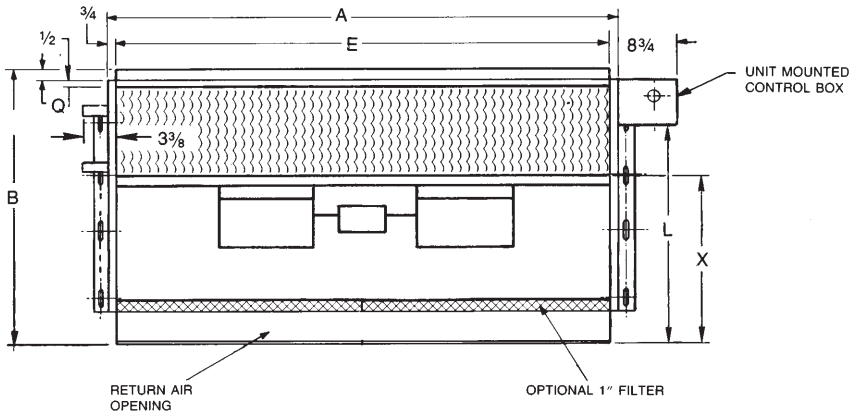
LEFT-HAND UNIT
HAND DETERMINED BY COIL CONNECTION WHEN FACING FRONT OF UNIT.



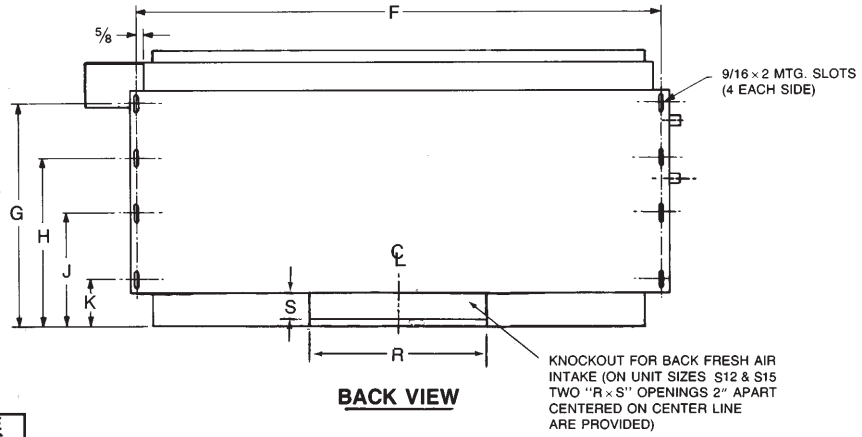
TOP VIEW



END VIEW



FRONT VIEW



BACK VIEW

CHB UNIT SIZE	RETURN AIR FILTER SIZE	APPROXIMATE UNIT SHIPPING WEIGHT (LBS.)
S03	8 x 18 3/4 x 1	55
S04	8 x 24 3/4 x 1	59
S06	8 x 33 3/4 x 1	86
S08	8 x 43 3/4 x 1	104
S10	10 3/4 x 43 3/4 x 1	124
S12	2-10 3/4 x 27 1/4 x 1	150
S15	2-10 3/4 x 27 1/4 x 1	157

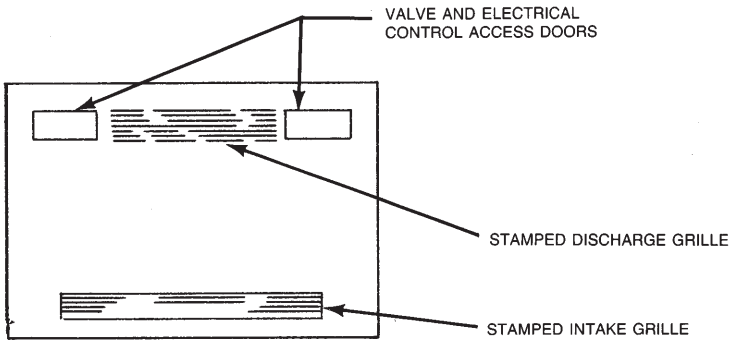
NOTE: CHB-S03 and S04 units have one fan. All other CHB units have two fans.

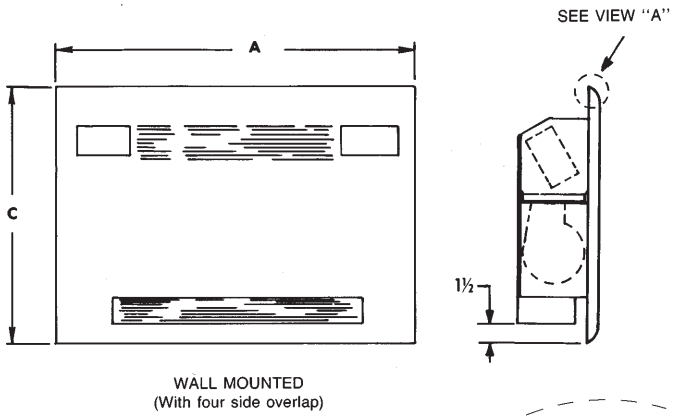
ALL DIMENSIONS APPROXIMATE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

CHB UNIT	UNIT DIMENSIONS (INCHES)																			
SIZE	**A**	**B**	**C**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**N**	**P**	**Q**	**R**	**S**	**T**	**U**	**W**	**X**	**Z**
S03	20 5/8	25	8 3/4	19	21 7/8	20 3/8	15 3/8	10 3/8	5 3/8	19 1/2	8	3	1	10	2 1/2	21 3/4	15 1/4	6 5/8	15 7/8	2 7/8
S04	26 5/8	25	8 3/4	25	27 7/8	20 3/8	15 3/8	10 3/8	5 3/8	19 1/2	8	3	1	10	2 1/2	21 3/4	15 1/4	6 5/8	15 7/8	2 7/8
S06	35 5/8	25	8 3/4	34	36 7/8	20 3/8	15 3/8	10 3/8	5 3/8	19 1/2	8	3	1	16	2 1/2	21 3/4	15 1/4	6 5/8	15 7/8	2 7/8
S08	45 5/8	25	8 3/4	44	46 7/8	20 3/8	15 3/8	10 3/8	5 3/8	19 1/2	8	3	1	16	2 1/2	21 3/4	15 1/4	6 5/8	15 7/8	3 1/4
S10	45 5/8	28	11 1/2	44	46 7/8	23	17	12	6	22 3/4	10 3/4	3 1/2	5/8	16	3	24 1/2	16	9 3/8	16 1/2	4 1/2
S12	57 5/8	28	11 1/2	56	58 7/8	23	17	12	6	22 3/4	10 3/4	3 1/2	5/8	16	3	24 1/2	16	9 3/8	16 1/2	4 1/2
S15	57 5/8	28	11 1/2	56	58 7/8	23	17	12	6	22 3/4	10 3/4	3 1/2	5/8	16	3	24 1/2	16	9 3/8	16 1/2	4 1/2

Wall plate

For use with Type CHB Basic Unit



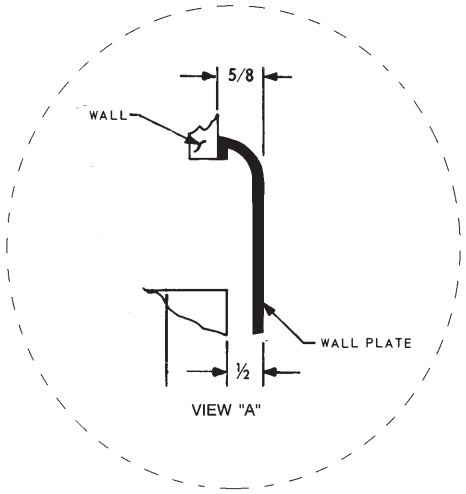


WALL MOUNTED
(With four side overlap)

CHB UNIT SIZE	WALL PLATE PART NUMBER	DIMENSIONS (INCHES) A	C	RECOMMENDED WALL OPENING
S03	061337201	40	28	25¾ x 37
S04	061337202	46	28	25¾ x 43
S06	061337203	55	28	25¾ x 52
S08	061337204	65	28	25¾ x 62
S10	061337205	65	31	28¾ x 62
S12, S15	061337206	77	31	28¾ x 74

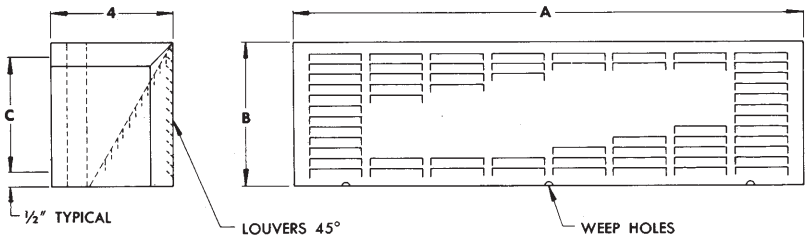
NOTES:

1. Wall plates for CHB unit sizes S12 and S15 are provided in two sections, split vertically down the center.
2. Wall plates may also be used for ceiling installation of CHB unit heaters.



Fresh air wall intake box

For use with Type CHF & CHB Units



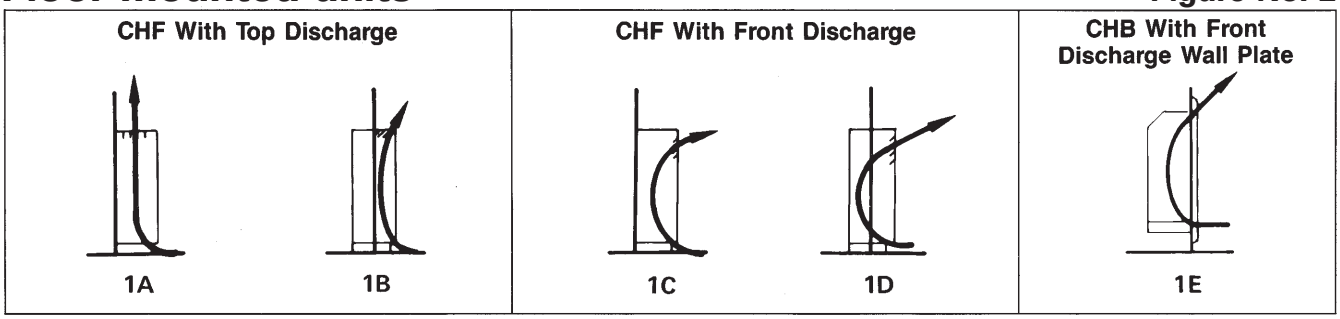
STYLE	DIMENSIONS (IN.) A	B	C
2 BRICK x 2 BRICK	16¾	4¾	3¾
2 BRICK x 4 BRICK	33½	4¾	3¾

ALL DIMENSIONS APPROXIMATE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

Unit arrangements

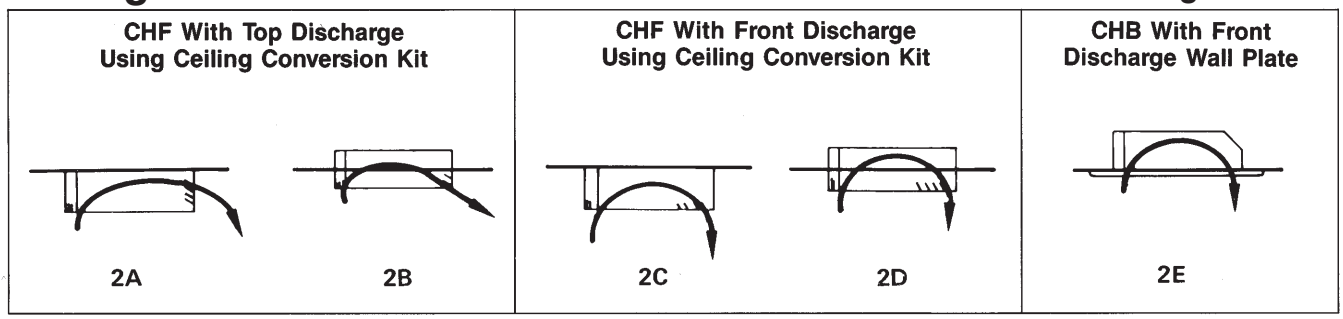
Floor mounted units

Figure No. 1



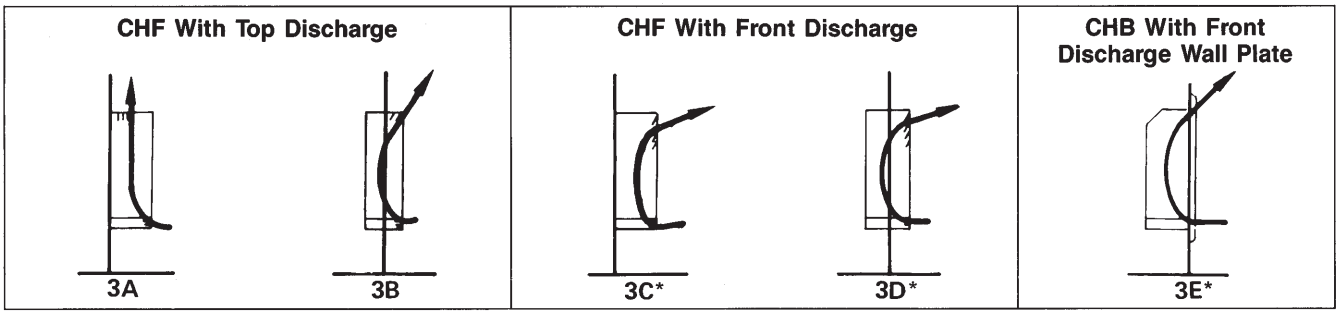
Ceiling mounted units

Figure No. 2



Wall mounted units

Figure No. 3



*Arrangements 3C, 3D, 3E are all available with inverted airflow. **Electrical connection and piping hand change when unit is inverted.** Ceiling conversion kits are required when arrangements 3C and 3D are inverted.

Engineering guide specifications

Furnish and install McQuay (floor)(basic) type cabinet unit heaters where shown on the plans. Types, sizes and performance shall be as tabulated in the schedule. Each unit type shall consist of and comply with the following:

Casing and Cabinets: Floor Type (CHF) — Cabinets shall be a vertical console type enclosure fabricated of galvanized steel, phosphatized and finished with an Antique Ivory electrostatically applied, baked-on urethane powder paint finish. Subbase shall be Oxford Brown epoxy finish. Cabinet shall include integral bar (top)(front) discharge grille and full width electrical and piping compartments with access doors at each end. All piping connections to be left hand.

Basic Type (CHB) — Basic unit shall consist of base casing and optional wall panel fabricated of steel for installation in custom enclosure furnished by general contractor.

Coils — Coils shall have HI-F rippled aluminum fins with copper tubes mechanically expanded for a permanent bond. Coils shall have a factory installed manual air vent. Coil performance shall be as tabulated in the schedule.

Fan Assembly — Fans shall be DWDI forwardly curved, centrifugal type. Fan housing shall be two-piece construction with removable front half for complete access to fans.

Motors — Units shall have 115/60/1 PSC single speed, sleeve bearing motors with oilers, inherent thermal overload protection with automatic reset and resilient mounts and designed for use with a solid-state variable speed controller.

Speed Controller — Units shall have a solid-state variable speed controller with integral "on-off" switch which shall provide uniform unlimited fan speed from high to low. It shall include an RFI filter circuit.

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